

AD-A023 161

SPECIAL DATA COLLECTION SYSTEM (SDCS) EVENT REPORT,
NTS EVENT 'DINING CAR', 05 APRIL 1975

J. R. Woolson, et al

Teledyne Geotech

Prepared for:

Defense Advanced Research Projects Agency

September 1975

DISTRIBUTED BY:

NTIS

National Technical Information Service
U. S. DEPARTMENT OF COMMERCE

ADAO23161

112031

SDCS-ER-75-19

SPECIAL DATA COLLECTION SYSTEM EVENT REPORT
NTS Event "DINING CAR", 05 April 1975

J.R.Woolson, O.D.Solari, M.S.Dawkins, K.J.Hill, and R.J.Markle
Alexandria Laboratories

Teledyne Geotech, 314 Montgomery Street, Alexandria, Virginia 22314

September 1975

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.

Sponsored By
The Defense Advanced Research Projects Agency
Nuclear Monitoring Research Office
1400 Wilson Boulevard, Arlington, Virginia 22209
ARPA Order No. 2897



Monitored By
VELA Seismological Center
312 Montgomery Street, Alexandria, Virginia 22314

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

Disclaimer: Neither the Defense Advanced Research Projects Agency nor the Air Force Technical Applications Center will be responsible for information contained herein which has been supplied by other organizations or contractors, and this document is subject to later revision as may be necessary. The views and conclusions presented are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the Defense Advanced Research Projects Agency, the Air Force Technical Applications Center, or the US Government.

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1 REPORT NUMBER SDCS-ER-75-19	2 GOVT ACCESSION NO.	3 RECIPIENT'S CATALOG NUMBER
4 TITLE (and Subtitle) SPECIAL DATA COLLECTION SYSTEM (SDCS) NTS Event "DINING CAR", 05 April 1975		5 TYPE OF REPORT & PERIOD COVERED Technical
7 AUTHOR(s) Woolson, J. R., Solari, D. D., Dawkins, M. S. Hill, K. J. and Markle, R. J.		6 PERFORMING ORG REPORT NUMBER F08606-74-C-0013
9 PERFORMING ORGANIZATION NAME AND ADDRESS Teledyne Geotech 314 Montgomery Street Alexandria, Virginia 22314		10 PROGRAM ELEMENT PROJECT, TASK AREA & WORK UNIT NUMBERS T/4703
11 CONTROLLING OFFICE NAME AND ADDRESS Defense Advanced Research Projects Agency Nuclear Monitoring Research Office 1400 Wilson Blvd.-Arlington, Virginia 22209		12 REPORT DATE 10 September 1975
14 MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) VELA Seismological Center 312 Montgomery Street Alexandria, Virginia 22314		13 NUMBER OF PAGES Unclassified
16 DISTRIBUTION STATEMENT (of this Report) APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.		15 SECURITY CLASS (of this report) Unclassified
17 DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18 SUPPLEMENTARY NOTES		
19 KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20 ABSTRACT (Continue on reverse side if necessary and identify by block number)		

SDCS Event Report No. 19

NTS Event "DINING CAR", 05 April 1975

This event report contains seismic data from the Special Data Collection System (SDCS), and other sources for the above event. Published epicenter information from seismic observations is:

	Origin Time	Latitude	Longitude	m_b	M_s
NORSAR	19:44:59	36 N	116 W	4.6	N/A
LASA	19:44:35	34.4N	115.9W	4.2	N/A
PDE	19:45:00	37.2N	116.2W	4.8	N/A
Hagfors Array, Sweden	19:44:51	36 N	118 W	5.0	N/A

Using SDCS stations, LASA and NORSAR, the epicenter location becomes

SDCS & Arrays	19:45:02	37.3N	116.3W	4.9	3.5
---------------	----------	-------	--------	-----	-----

FN-WV was not operational for this event.

Short-period signals associated with this event were recorded at all operational SDCS stations, and LASA and NORSAR. The short-period vertical channel gain at CPSO is unknown. The number of instruments contributing to the summation during calibrations was not recorded.

Analysis of the SDCS, LASA and ALFA long-period data failed to produce recognizable signals associated with this event.

Scaling factors on plots are millimicrons at 1 Hz (not corrected for instrument response) with the exception of LASA and NORSAR short-period plots. LASA SP scaling factors are millimicrons per inch. Scaling factors are not reported for NORSAR short-period.

STATION DESCRIPTION

SITE CODE	LOCATION	SITE COORDINATES			ELEVATION METERS	INSTRUMENTATION	
		DEG	MIN	SECS		SHORT-PERIOD	LONG-PERIOD
ALPA	Alaska	65	14	00.0	N	626	None
		147	44	36.0	W		31300
CPSO	McMinnville, Tennessee	35	35	41.4	N	574	6480 V
		085	34	13.5	W	7515 H	SL210 V SL220 H
FN-WV	Franklin, West Virginia	38	32	58.0	N	910	KS36000
		079	30	47.0	W		KS36000
LASA	Billings, Montana	46	41	19.0	N	744	HS10
		106	13	20.0	W		7505A V 8700C H
HN-ME	Houlton, Maine	46	09	43.0	N	213	18300
		067	59	09.0	W		SL210 V SL220 H
NORSAR	Kjeller,	60	49	25.4	N	379	HS10
		010	49	56.5	E		7505A V 8700C H
RK-ON	Red Lake, Ontario	50	50	20.0	N	366	18300
		093	40	20.0	W		SL210 V SL220 H
WH2YK	White Horse, Yukon	60	41	41.0	N	853	18300
		134	58	02.0	W		SL210 V SL220 H

Notes:

Details of the program used to obtain beamed vertical, radial and transverse long-period data at LASA, ALPA, and NORSAR are in the process of being reviewed. Vertical beams are probably valid, horizontal beams at the LASA and NORSAR are questionable. Horizontal beams at ALPA are probably invalid.

HYPOCENTER DETERMINATION

INPUT FOR EVENT 5 APR 75
19:45:00.0 37.000W 116.000W 0KM.

STA.	ARRIVAL	CALC	RESIDUALS	DIST.	AZ.
LAO	19 47 52.8	-0.2	-0.1	12.0	35.4
RR-ON	19 49 46.5	0.2	0.1	21.0	42.8
CPO	19 50 23.7	-0.1	0.1	24.7	84.7
WH2YK	19 50 37.8	0.2	0.3	26.2	339.1
HN-ME	19 52 09.2	0.3	0.2	36.6	60.5
NAO	19 56 32.5	-0.4	-0.6	73.1	24.1

67 HERPIN TRAVEL TIME TABLES

ORIGIN	LAT.	LONG.	DEPTH (KM)	SDV	IT	STA
19:45:05.1	37.387N	116.219W	18. CALC	0.3	3	6
19:45:02.0	37.318N	116.269W	0. REST	0.3	3	6

CALC	PEST
1 . 1	1 . 1
0 0 : 0	0 0 : 0
0 0 . 3 1	0 0 . 3 1
0 0 . 0 0	0 0 . 0 0
0 0 . 0	0 0 . 0
0 0 . 0	0 0 . 0

CHI2 COVERAGE ELLIPSE: 95 PER CENT CONF.. LEVEL, SDV= 1.74
MAJOR 65.8KM. MINOR 42.3KM. AZ= 24 AREA= 8742 SQ.KM. REST

4.

DATA SUMMARY

INPUT FOR EVENT 5 APR 75
 19:45:00.0 37.000N 116.000W 0KM.

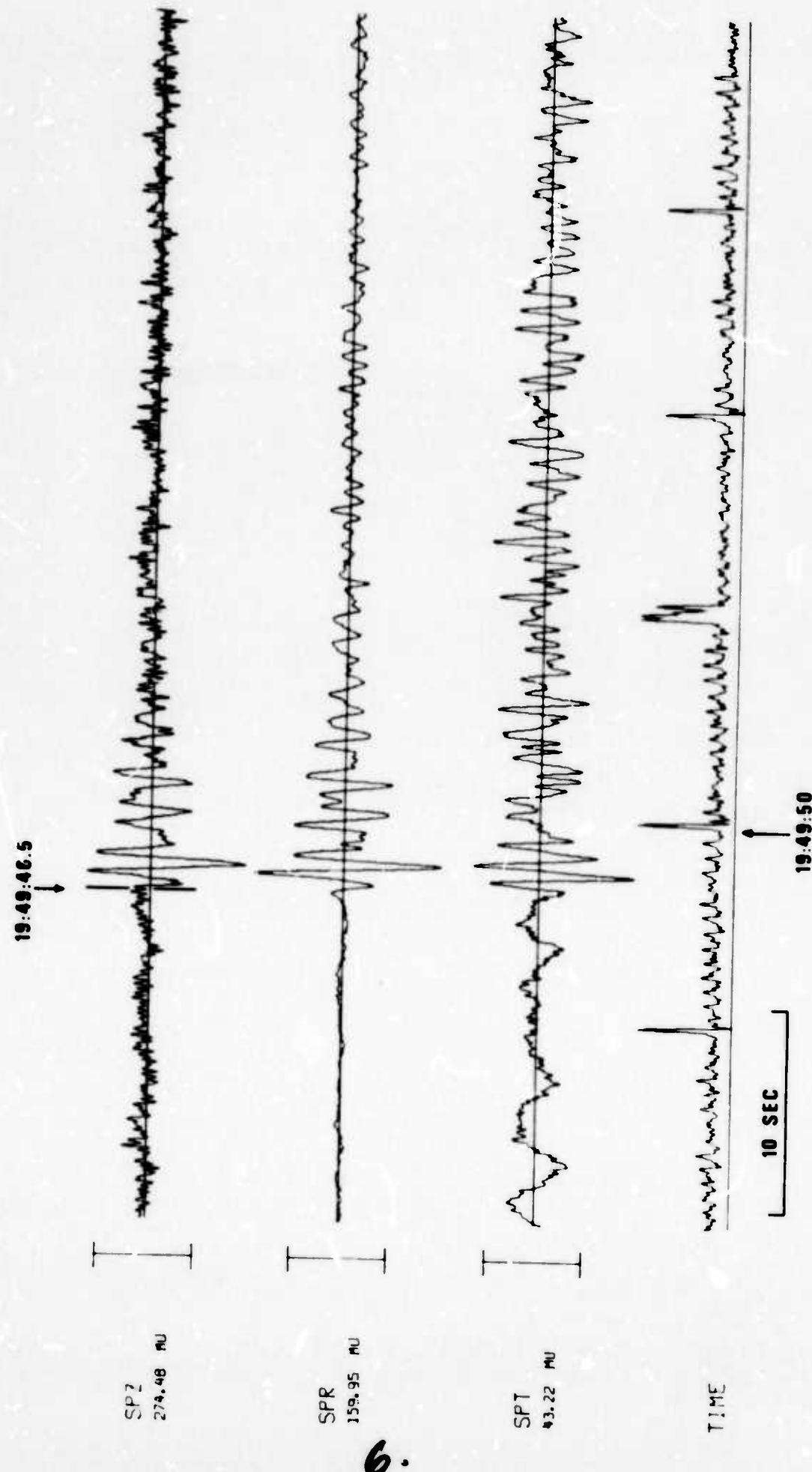
STA.	PHASE	ARRIVAL		INST	PER	A/T	MAGNITUDE			DIR	DIST
		TIME					MB	MS			
LAC	M	19	47	52.8	AB	1.0	16.	5.01			12.0
RK-ON	EP	19	49	46.5	SPZ	0.9	424.	5.43			21.0
CPO	EP	19	50	23.7	SPZ	0.9	??				
WH2YK	EP	19	50	37.8	SPZ	0.9	14.	4.27			26.2
HN-ME	EP	19	52	09.2	SPZ	1.0	72.	5.19			26.6
NPO	EP	19	56	32.5	AB	1.0	12.	4.67			73.1
NAO	LR	20	32	11.0	LAB	20.0	3.	3.46			73.1

ORIGIN	LAT.	LONG.	DEPTH (KM)	MAG	SDV	STA	LPMAG	LPSDV	LPSTA
19:45:00.1	37.387N	116.219W	18. CALC	4.85	0.53	4	3.46*****		1
19:45:02.0	37.318N	116.269W	C. REST	4.87	0.51	4	3.46*****		1

Short-period magnitudes (mb) used in averaging are restricted to those recorded at distances between 20 and 110 degrees from the epicenter.

Average long-period magnitude (Ms) is based on Rayleigh wave observations in the period range of 17 to 23 seconds per cycle.

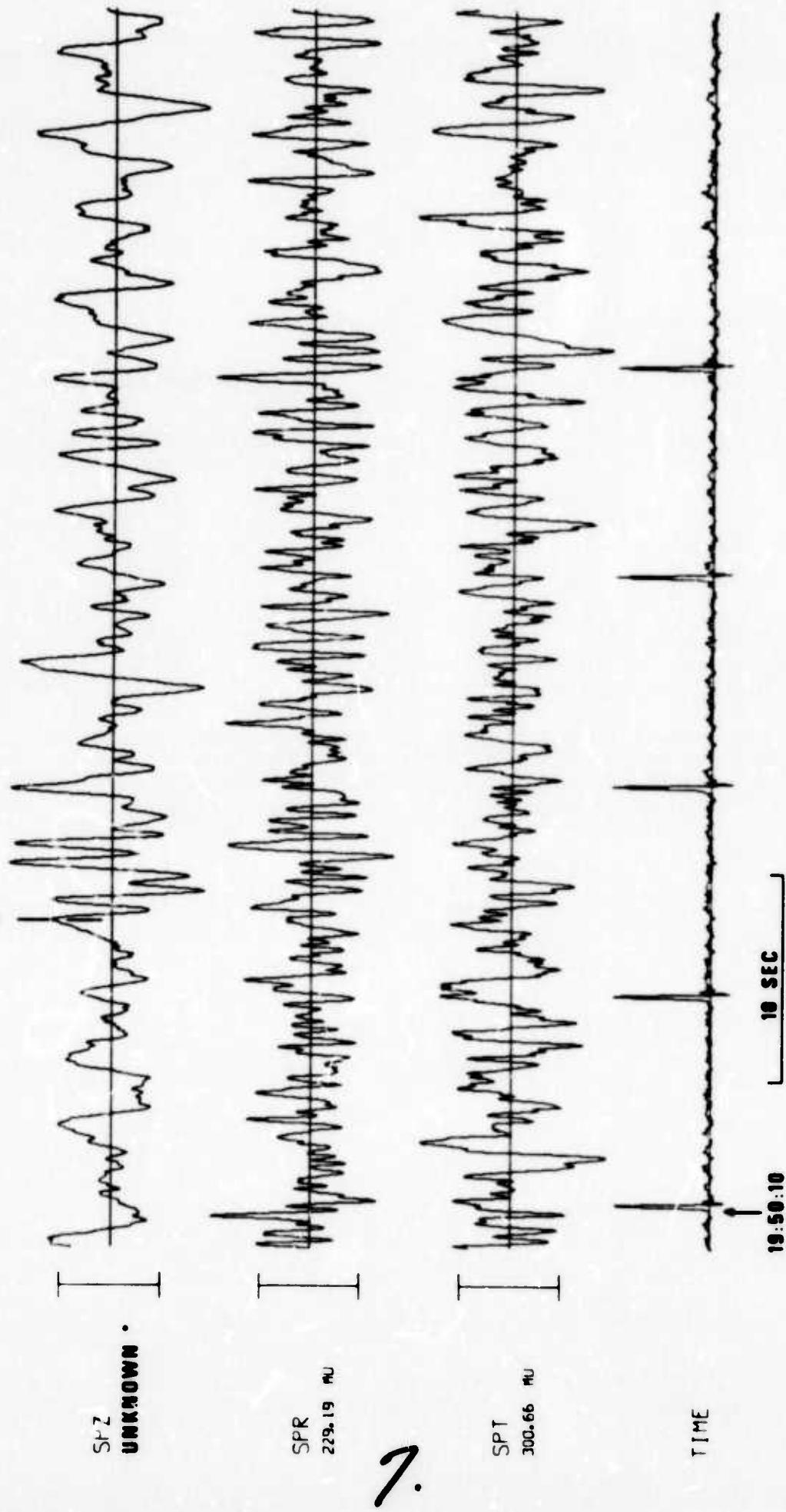
RK-UN 05 APR 75



CPSU 05 APR 75

19:50:23.7

SPR₂
UNKNOWN



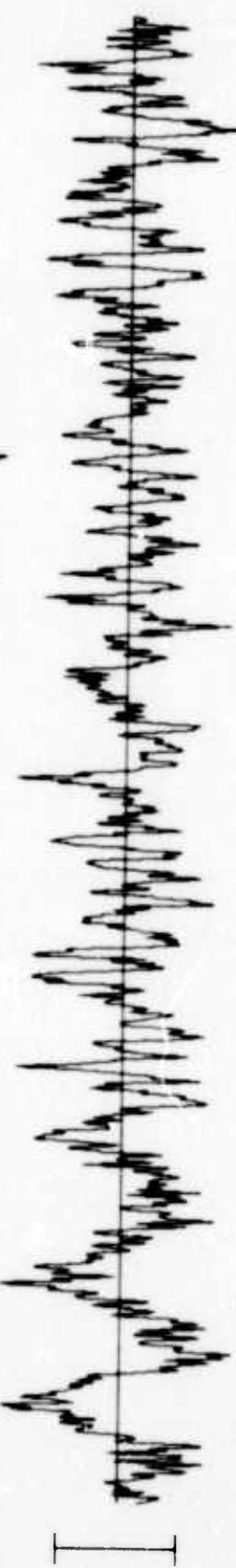
• number of instruments in summation unknown

WIZYK C5 RPR 75

19:58:37.8



8.



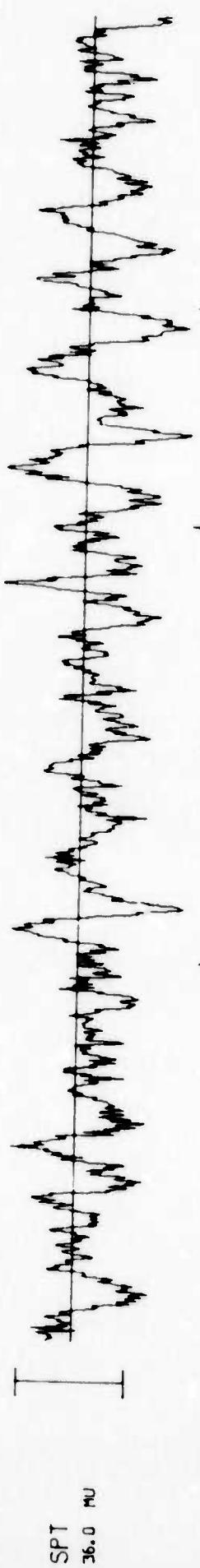
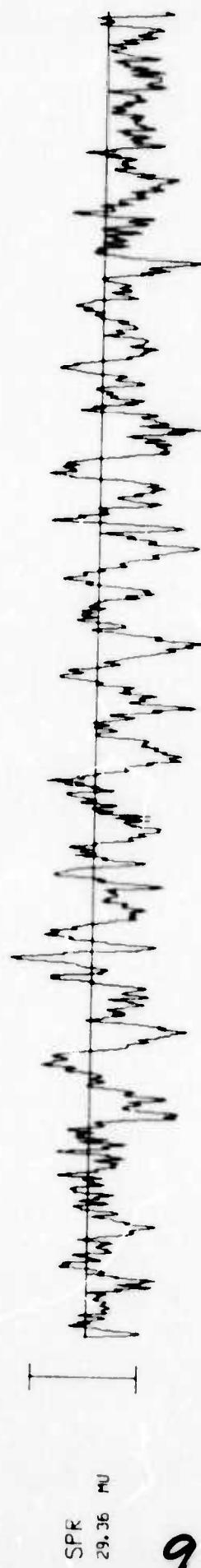
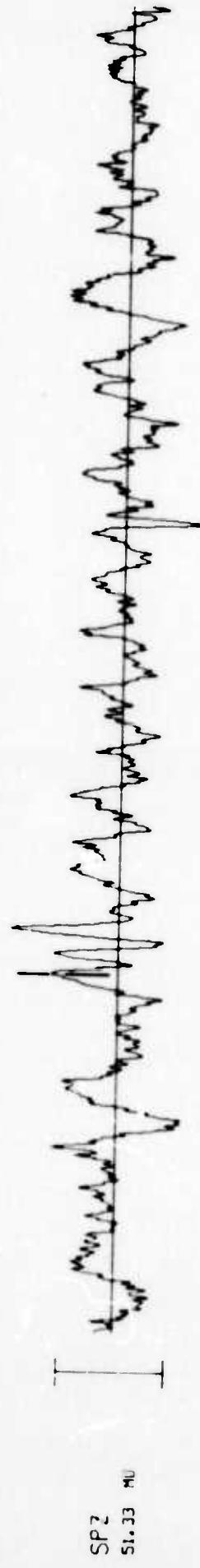
TIME

10 SEC

19:59:50

HN-11E 05 APR 75

19:52:09.2



19:52:10

LASA (INDIVIDUAL SHORT-PERIOD INSTRUMENTS) 5 APR 75



(NO AMPLITUDE DETERMINATIONS MADE DUE TO UNRESOLVED SCALING PROBLEMS)

1 5 APR 1975

2 19 44 38 34.4N 115.9W

3 19 47 55.5 LAO P

LASA

33C D 3.9 43 SOUTHERN CALIFORNIA
4.1 1.1 8.4 14.2 214.6

EPX 95726

ABN 8.5

19:47:45.5

BP-B 0.6-2.0 Hz

AB 20

FAB 21

PAB1 25

PAB2 36

PAB3 28

PAB4 28

10 SEC

11.

NORSAR EVENT FILE

1975 APR 5

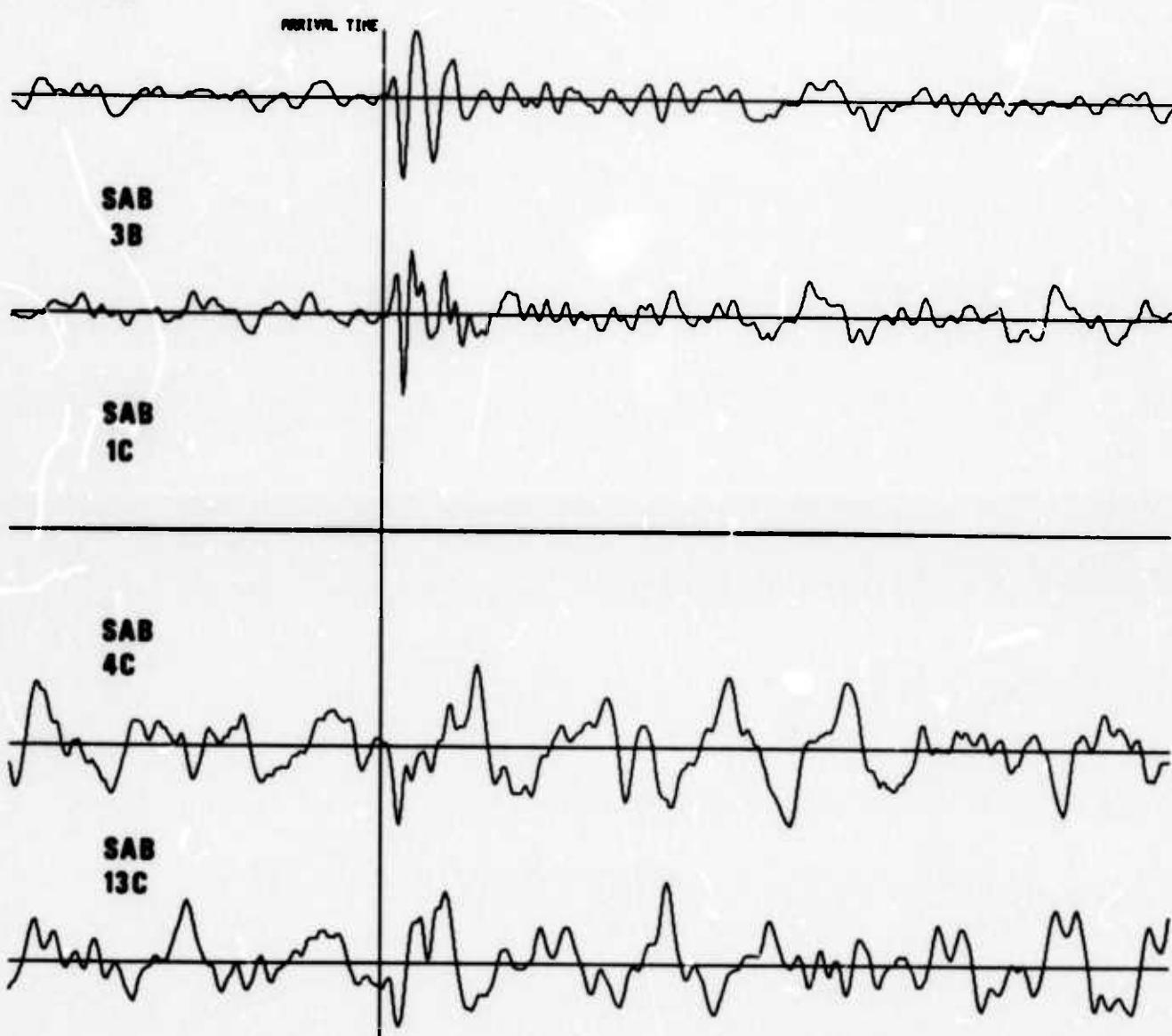
EPX NO. 13520 ARR. 19.56.32.3 36.1N 116.4W 4.5MB 33KM

DIST = 74.3 AZI = 317.9 AMP = 6.6 PER = 1.2

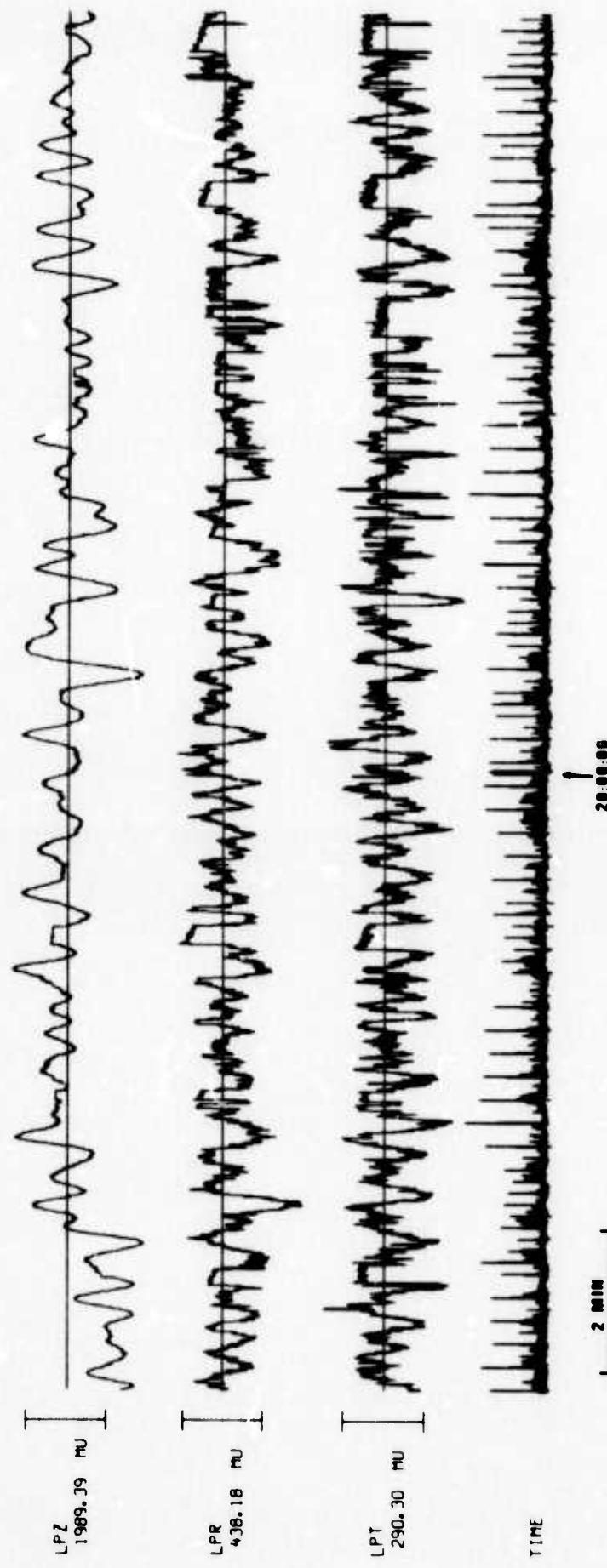
 = 5 SECONDS

AB

ARRIVAL TIME

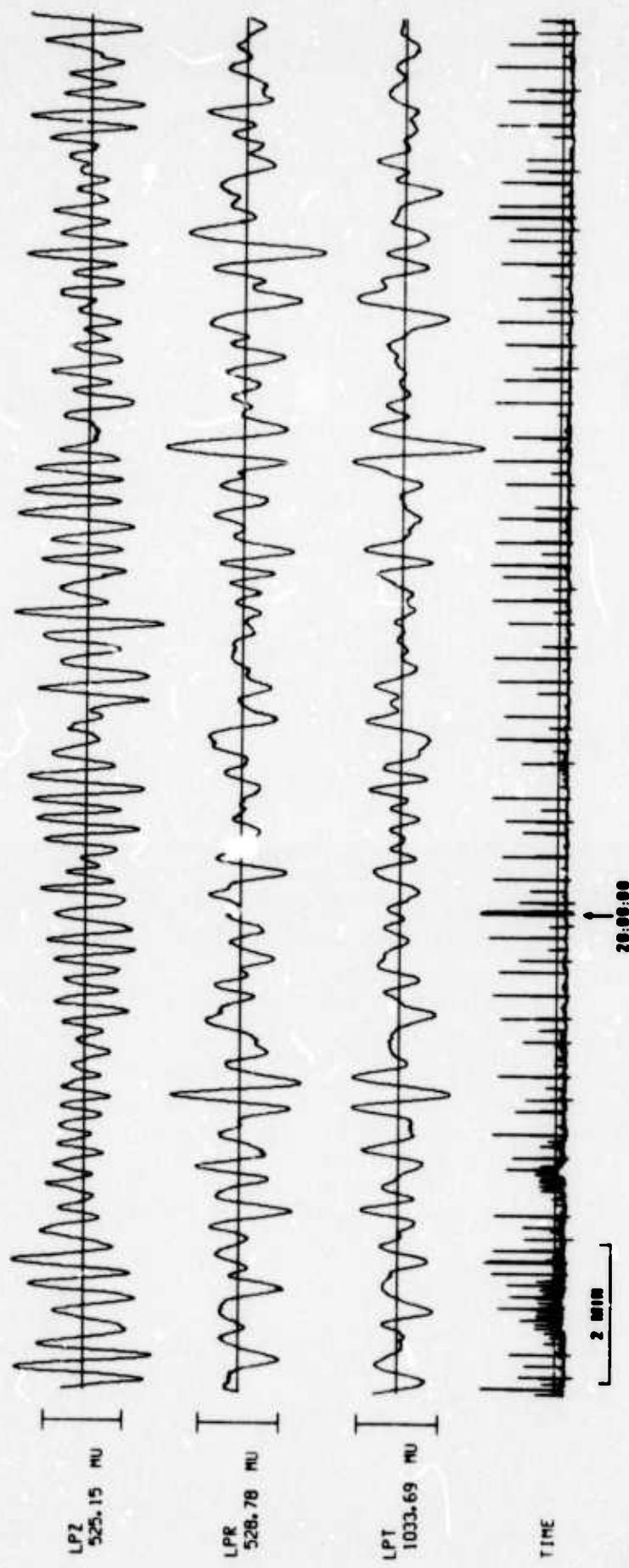


SK-UN 05 APR 75

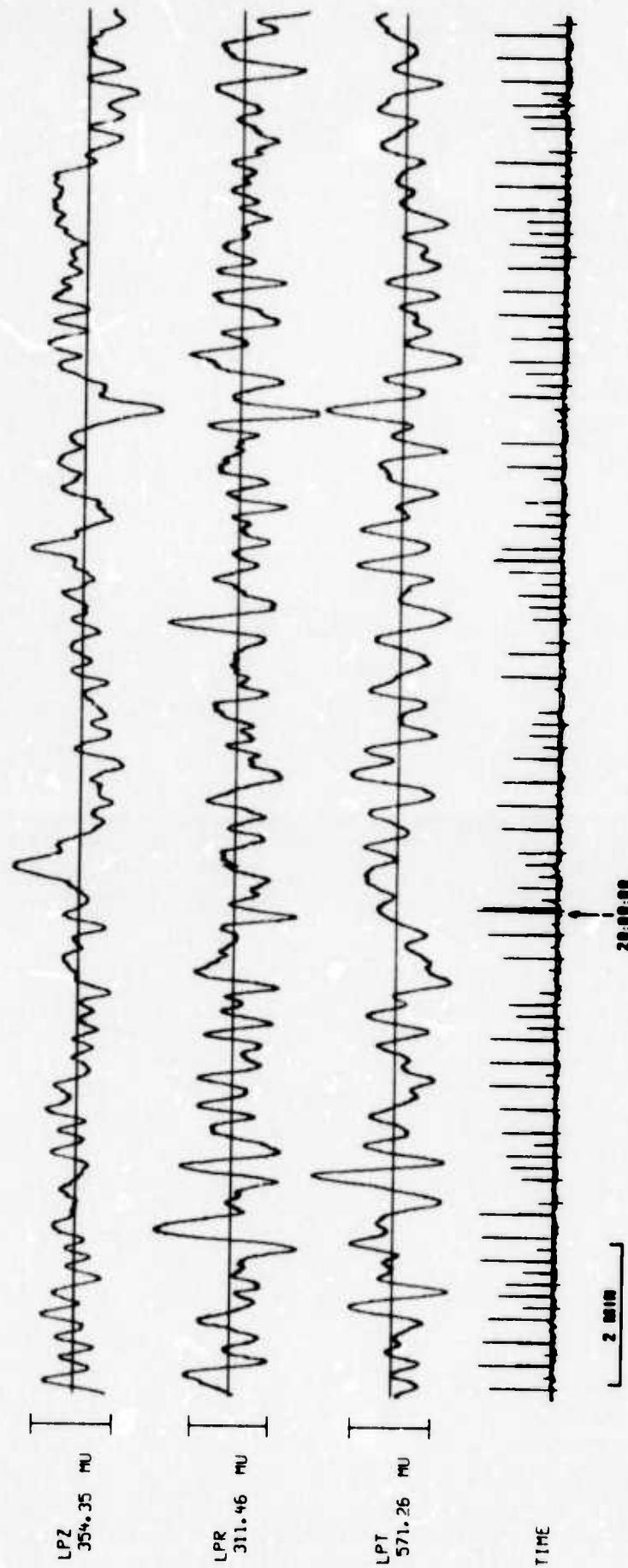


13.

CPSU 05 APR 75

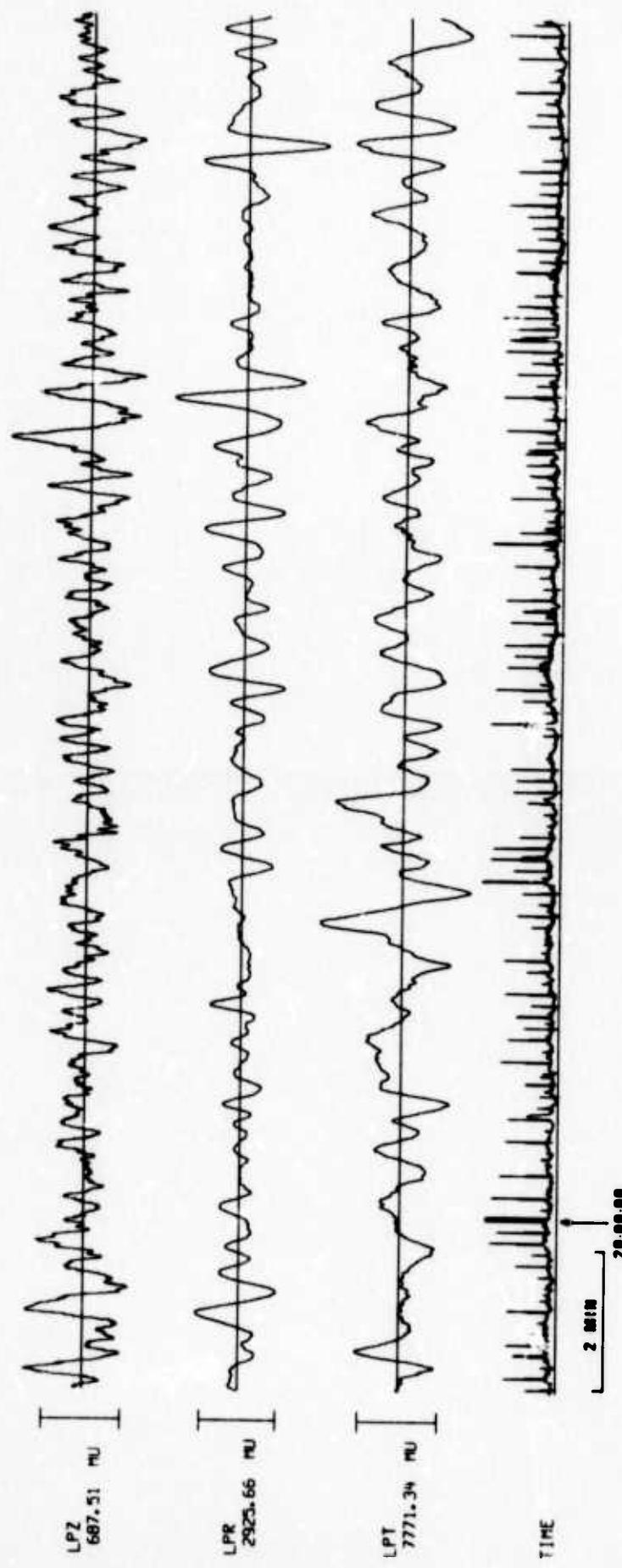


WH2YK 05 APR 75



5.

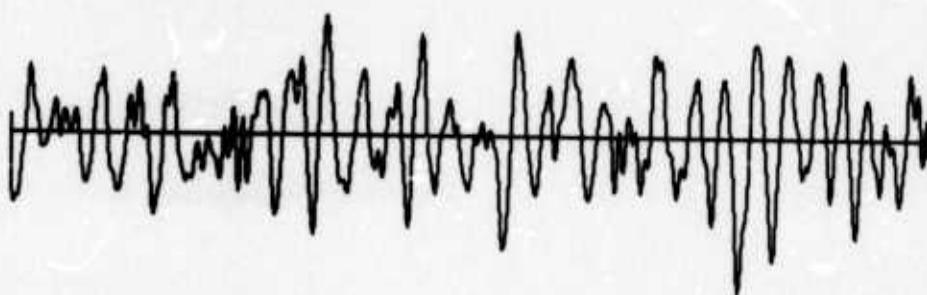
HN-ME 05 APR 75



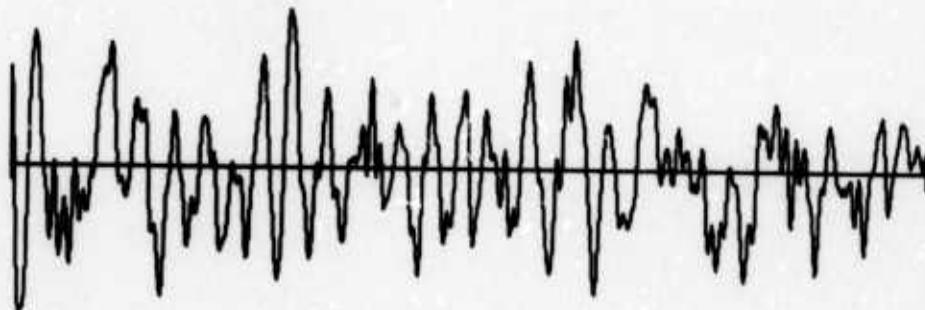
16.

LASA C4 SUBARRAY 5 APR 75

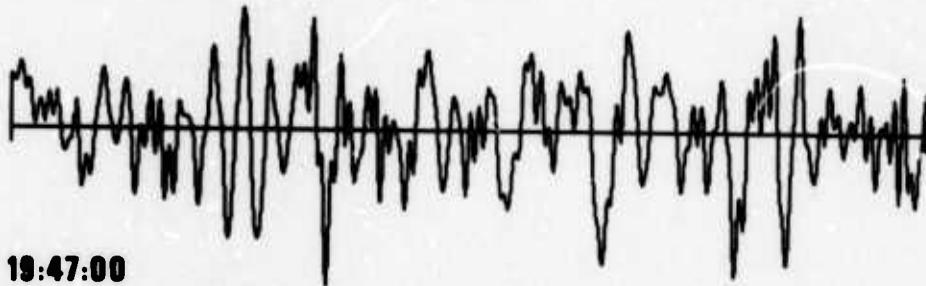
LPZ



LPM



LPE



19:47:00

2 MIN

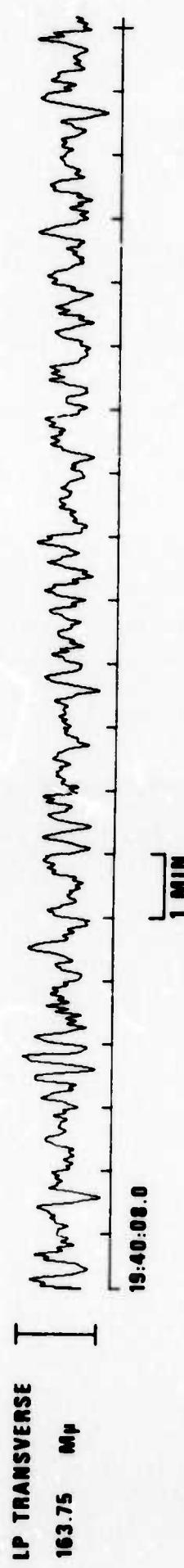
(NO AMPLITUDE DETERMINATIONS MADE DUE TO UNRESOLVED SCALING PROBLEMS)

17.

LASA LONG-PERIOD BEAMS 05 APR 75



18.



NORSAR LONG-PERIOD BEAMS 05 APR 75

20:32:11
↓

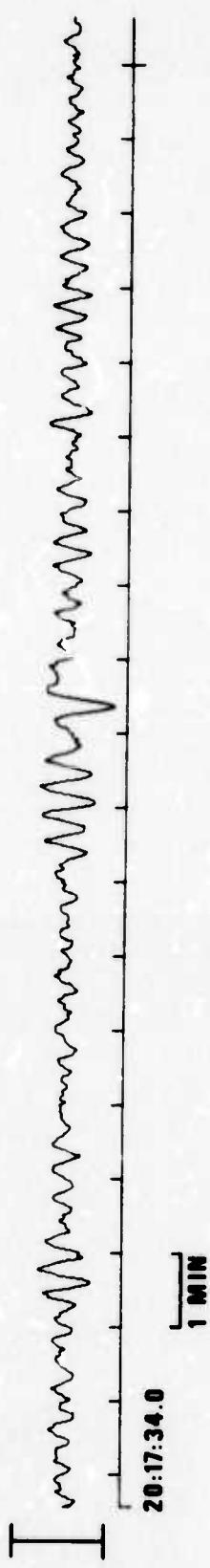


LP RADIAL
66.06 M μ



19.

LP TRANSVERSE
101.13 M μ



ALPA LONG-PERIOD BEAMS 05 APR 75

